

native tree to Blakeslee and Jarvis, *New England Trees in Winter*, similarly for nearly every cultivated shrub or tree given references are made to the pages in Schneider's *Dendrolische Winterstudien*. The names used are those given in Bailey's *Cyclopedia of Horticulture*. For many of the species one, and only one, common name is given, other species have only the scientific name. A freer use of common names and synonyms for frequently used scientific names would have added to the value of the book.

The book will fit the coat pocket comfortably. The dark brown cover offers little contrast to the black lettering on it, otherwise no fault can be found with the appearance of the book as it is well printed on good paper and bound in flexible cloth. Within the limits of so small a book it is surprising how much has been included. The book will prove almost invaluable to those who wish to determine trees and shrubs in winter.

GEORGE T. HASTINGS.

PROCEEDINGS OF THE CLUB

MEETING OF MARCH 10, 1925

This meeting was held at the American Museum of Natural History at 8:15 p.m., with Vice President Richards in the chair. The attendance was 22.

Dr. George H. Shull, of Princeton University, gave a lecture on "Genetical Studies in *Oenothera*."

The lecturer remarked the extensive work which has been done on the genetics of *Oenothera* by de Vries, who is still vigorously engaged at the work which he began 40 years ago, and by numerous investigators who have joined him in recent years, the lecturer's own work having been continued now for a period of 20 years. Examples were given to illustrate the two most fundamental peculiarities of *Oenothera* genetics, the production of unlike reciprocal hybrids and the splitting in F_1 to form the so-called "twin" hybrids.

Diagrams were displayed representing the manner in which two sets of balanced lethal factors account for the fundamental peculiarities of genetical behavior in the *Oenotheras*, the *Lamarckiana* type being characterized by a double pair of zygote lethals which account for the F_1 splitting, the *biennis* type by a

pair of sperm lethals, balanced by a pair of egg lethals, which account for the unlikeness of reciprocal hybrids. In both types the result is the maintenance of true-breeding species, all the individuals of which are uniformly heterozygous. The demonstration of the existence of these lethal factors has been possible because of the linkage between the lethals and other factors which give rise to visible characters, and the occurrence of crossing over which has separated and recombined the lethals in new combinations with the other known factors.

Including these balanced lethals, 13 factors are recognized as belonging to a single linkage group.

Two factors have now been found which are independent of the large linkage group; one of these is the short-styled *brevistylis* discovered by de Vries, in nature, at the beginning of his work 40 years ago, but not yet discovered in experimental culture except as recessive segregates from previous crosses. The second is the "old gold" factor which is not only independent of the big linkage group, but also independent of *brevistylis*, giving in crosses with the latter, the typical dihybrid Mendelian ratio, 9 : 3 : 3 : 1, regardless of the presence or absence of the lethals or of other factors belonging to the big linkage group.

Slides were shown illustrating the new double-flowered mutant form, mut. *supplena*, which originated last summer in the lecturer's cultures, being the first double-flowered *Oenothera* which has been reported. This mutation was repeated eight times in one culture and was associated with three different vegetative habits which were recognized as being differentiated from one another in the number of lethal factors present. This is taken to indicate the probable independence, or near independence, of the *supplena* factor from the big linkage group, but this conclusion is tentative and awaits critical evidence from the coming summer's cultures.

ARTHUR H. GRAVES, *Secretary.*

NEWS NOTES

The Bulletin of the Torrey Botanical Club which has formerly been issued in twelve numbers a year has been changed to nine numbers, none being published during July, August and September. There will be no decrease in the total pagination for the year.